

REMARKS

This amendment is responsive to the Office Action dated October 28, 2003. Applicant has made no amendment to the claims. Claims 1, 2 and 4-12 remain pending.

Claim Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1-2, and 5-11 under 35 U.S.C. 103(a) as being unpatentable over Bantli et al. (US 5,621,571 in view of Diprizio et al. (US 6,384,727). In addition, the Examiner rejected claims 4 and 12 under 35 U.S.C. 103(a) as being unpatentable over Bantli et al. (US 5,621,571) in view of Diprizio et al. (US 6,384,727) in further view of Mochida et al (US 6,317,149).

Applicant respectfully traverses the rejection. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

For example, Applicant's claim 1 recites a combination tag that incorporates a retroreflective article and a radio frequency-responsive communication element. The cited references fail to teach or suggest a tag in which a radio frequency-responsive element is combined with a retroreflective article having an optical article and a reflective layer, wherein the reflective layer comprises a metallized ink deposited on at least a portion of a structured surface of the optical article, as recited by Applicant's independent claim 1.

In the Office Action, the Examiner correctly stated that Bantli does not teach a retroreflective article having an optical article and a reflective layer where the reflective layer comprises metalized ink disposed on at least a portion of the structured surface of the optical article. The Examiner sought to overcome the deficiency of Bantli by citing Diprizio. In particular, the Examiner asserted that column 3, lines 50-67 of Diprizio discloses the use of a metallized ink disposed on at least a portion of the structure surface of the optical article. The Examiner then concluded that:

[It] would have been obvious to an artisan of ordinary skill in the art ... to employ silver metal ink as compare [sic] to aluminum metallic layer onto the teachings of Banti et al. so as to improve the conductivity of the reflective sheeting. Furthermore, these materials as well known in the art, are alternatively equivalent and serve the same purpose as semi-conductive or non-contiguous elements. Moreover, such modification

would have been an obvious extension as taught by Brantli et al. and an obvious expedient.¹

Based on these comments, it appears that the Examiner may be confused with respect to certain aspects of the present application. For example, improving the conductivity of the reflective sheeting is actually undesirable. In fact, improving the conductivity of the reflective sheeting would likely increase the problems, i.e., communication interference, that Applicant's invention addresses.

As described above, Applicant's claim 1 recites a combination tag that incorporates a retroreflective article and a radio frequency-responsive communication element. As is known in the art, and described with the present application, a retroreflective article is an article that includes certain reflective structures to generally reflect light back toward the light source. In other words, a retroreflective article returns radiant energy in the direction from which it came, and over a wide variety of angles from which the article is being struck. Because of this property, retroreflective articles are used to increase visibility, such as with traffic signs, runway markers, active garments, fire-fighters protective gear, license plates, and other applications.

As described in Bantli, one form of a conventional retroreflective article utilizes a layer of spherical elements embedded within a binder layer with an underlying reflecting layer. This underlying reflecting layer is often a substantially continuous reflective coating, such as vapor deposited aluminum. This substantially continuous reflective metal coating acts as a conductive plane that may render inoperable or otherwise interfere with a radio frequency-responsive element used in combination with the retroreflective article, especially if the radio frequency-responsive element is placed proximate to or behind the article.

Unlike the cited Bantli or Diprizio, claim 1 of the present application recites that the reflective layer of the retroreflective article comprise a layer of metallized ink deposited on at least a portion of the structured surface of the optical article. In this manner, a continuous reflective layer is not used in the retroreflective article, thereby avoiding the communication interference that conventional retroreflective articles may produce. In particular, Applicant's application describes how a metallized ink may be used to produce a retroreflective value that

¹ Page 3, emphasis added.

visually approximates a vapor coated retroreflective sheeting having a continuous reflective layer, yet achieve radio frequency-responsiveness.²

In contrast with these requirements of claim 1, Diprizio, makes no mention of a retroreflective article whatsoever, let alone a retroreflective article having a metallized ink disposed on at least a portion of the structured surface of the optical article. To the contrary, Diprizio only discloses a radio-frequency identification device (RFID). In fact, the portion of Diprizio referred to by the Examiner, i.e., column 3, lines, 50-67, describes the use of conductive inks to form conductive circuit elements in an RFID device. In other words, Diprizio is describing the use of conductive inks to form circuit elements for RFID devices and is not referring to a retroreflective article, as asserted by the Examiner.

As a result, in no way does Diprizio teach or suggest modifying the retroreflective article to include a layer of metalized ink disposed on at least a portion of the structured surface of the optical article. Thus, neither Bantli or Diprizio teach or suggest the use of a combination tag in which the retroreflective article uses metalized ink to achieve retroreflection. Consequently, even if such teachings were combined, Diprizio does nothing more than suggest the use of conductive inks for forming circuit elements of RFID devices. Even if such teachings were combined with Bantli, at best the radio-frequency elements of Bantli may be modified in view of Diprizio. No teaching or suggestion exists to modify the retroreflective article and, in particular, the reflective layer of the retroreflective article.

In addition, the motivation set forth by the Examiner for modification of the Bantli retroreflective article in view of Diprizio is not found within the cited references, as is required. For example, as noted above, the only motivation provide by the Examiner, i.e., to increase conductivity, is erroneous in that increasing conductivity would likely increase communication interference and otherwise result in an inoperable device. Consequently, the Examiner's conclusion of obviousness is unsupported by any substantial evidence in the record.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant's claims 1, 2 and 4-12 under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

² Page 9, lines 5-12, 23-25.

Appl. No. 10/027,764
Amd dated January 28, 2004
Reply to Office Action of October 28, 2003

CONCLUSION

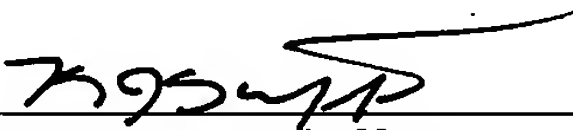
All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

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